Abrams Update: Vital and Improving

by Colonel James H. Nunn, TRADOC System Manager for Abrams

Since the Army is focused on Interim Brigade Combat Teams (IBCT) and the Objective Force, some seem to think the Abrams program is trending downward. Let me dispel that rumor by pointing out there will be more improvements in the Abrams force over the next 10 years than at any other time since the original fielding of Abrams in the early 1980s. While the Army transforms to reach a full-spectrum future, the Abrams tank continues to provide a unique and decisive warfighting capability. Tanks today, and in the future, are the Army's best systems to close with and destroy enemy forces through maneuver and precision fires.

We recently started fielding the M1A2 SEP to the 4th ID and will continue to field M1A2 SEPs to armor battalions until 2011 or later.

The M1A2 SEP has a second-generation FLIR with 50X magnification on the gunner's primary sight and commander's independent thermal viewer, the Force XXI Battle Command for Brigade and Below (FBCB^2) system, a thermal management system, and the latest armor package, making it the most lethal land combat system in the world.

Not everyone will get an M1A2 SEP, but don't despair. We are rebuilding M1A1s and conducting selective upgrades, such as replacing analog with digital systems and adding FBCB^2 to improve situational understanding and provide far-target locating capability. The Abrams rebuild program, called Abrams Integrated Management (AIM), is an innovative teaming of the prime contractor, General Dynamics Land Systems (GDLS), with Anniston Army Depot to overhaul the tank to like-new condition. AIM increases readiness, reduces operating and support costs, standardizes configurations, and minimally sustains the Abrams industrial base.

With FBCB^2, tankers receive the information needed to provide leaders a common relevant picture of the battlefield, scaled to their level of interest and tailored to their special needs. Tankers with FBCB^2 can see friendly vehicle icons on a digital map, with overlays, and send digital reports.

The far-target locating capability allows the crew to determine the range to an enemy vehicle with the tank's laser rangefinder, determine an accurate grid location, and add an icon to the digital maps of other tanks. The crew can also use this data to send a digital call for fire. The M1A1D may not have the same capabilities as the M1A2 SEP, but it is still a great tank.

Since we fielded the Abrams in the early 1980s, we have not made any major improvements to the engine. As I visit Armor units, the reliability of the Abrams' engine is always an issue. Throughout the Armor Force, tankers are concerned over the rising cost of maintaining the tank fleet and the impact of availability on training and combat readiness.

The last new engine was produced in 1993 and since then we have just been rebuilding engines. Each time we rebuild we lose a little capability, and we are still working with 1970s technology. To fix this problem, the Army is going to give the Abrams a new engine that is four to five times more reliable and improves fuel consumption by about 35%. This is a major Army program and demonstrates our commitment to the Armor Force and its importance. Improving the reliability and fuel efficiency of the Abrams tanks benefits the Armor Force by increasing training and operational readiness while reducing the logistics footprint required to maintain the combined arms team in the field. You should be excited about this program because it is central to sustaining the Abrams fleet and is critical to providing tankers with the hardware needed to win our Nation's wars.

(**Editor's Note**: As this issue was being prepared, it was announced that the new engine will also be a turbine, rather than the diesel replacement that was widely expected. Honeywell/General Electric will provide its LV100 turbine, an engine claimed to offer 30 percent less fuel consumption, 43 percent fewer parts, and 100 kg less weight. The engine had been developed for the Army's Advanced Integrated Propulsion System program.)

New or rebuilt tanks without munitions improvements are sub-optimal. To be decisive, we must enable these great platforms with improved munitions that increase lethality and extend the close combat fight. Tankers in Korea and other theaters need a canister round to deal with dismounted RPG ambushes in complex terrain (*see related story, page 18*). We need a round that provides rapid area suppression. Using the coax machine gun requires lasing, dumping and pattern burst, which make it a slow area-effect weapon. Getting an effective canister round to the field is one of the top priorities of the Armor Center.

To maintain lethality overmatch, we also need to continually improve our sabot round to ensure we can penetrate any known enemy armor at greater distances. The M829E3, which goes into production in FY02, gives the Armor Force the punch it needs to win on future battlefields. In addition to a sabot round that can kill anything within the 3-4K range, we also need to expand our battlespace by producing a round that can hit targets at longer ranges. Tank Extended Range Munitions (TERM) give us the capability to leverage improved sights and digitization to extend the close combat fight and destroy enemy forces before they can come within effective range of our tanks. Adding a beyond-line-of-sight capability significantly improves tank survivability and loss/exchange ratios while expanding the tank's role on the battlefield.

The Abrams program is alive and well. While others are getting a lot of press, we are quietly upgrading our systems to ensure that our tankers dominate on any battlefield. The 4th ID is crossing the LD enroute to the first digitized division objective and others will follow. There is a lot of activity in the Abrams program, and we will continue work to ensure that Abrams maintains overmatch across the full spectrum. Abrams systems are projected to be a vital part of the Army for the next 20-30 years.